

ABSTRACT

Method and apparatus are provided for reducing vibration in bearings. There are provided first and second bearing rings with races, rotating members rollingly engaging both first and second bearing races, a cage for aligning the rotating members between the first and second bearing races, and vibration reduction means coupled to the cage. The vibration reduction means preferably comprises one or more resonant spring-mass combinations mounted in or on the cage. Damping means is preferably included with the resonant spring-mass combinations. The resonant frequencies of the unmodified bearing cage are first determined and then the spring-mass combinations tuned so that the spring-mass combinations when attached to the cage absorb vibrational energy that would otherwise excite cage vibrations. By selecting the type of spring-mass combination different vibrational modes can be suppressed and/or controlled.